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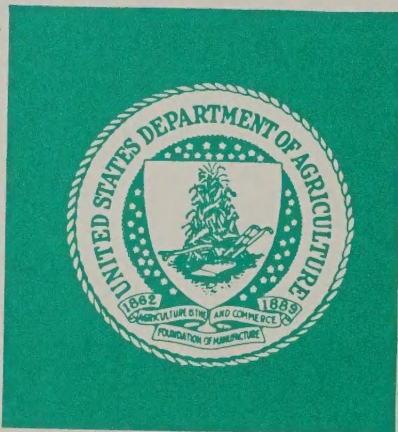
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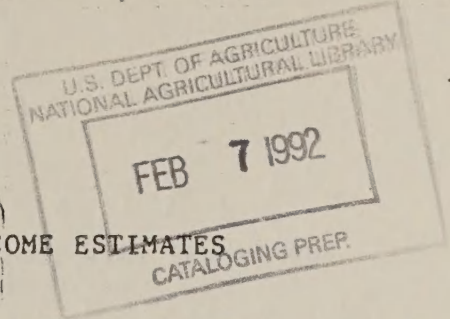
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## REPORT OF TASK FORCE ON FARM INCOME ESTIMATES

### I. INTRODUCTION

The USDA began to estimate and report farm income more than 45 years ago. These estimates were intended initially to measure the economic health of farmers. They were independent of national income and product accounts, having been developed some years before the Department of Commerce took over national income measurement from the National Bureau of Economic Research. Farm income estimates have been useful over the years to policy makers and economic analysts.

Thus, in undertaking its assignment, the Task Force on ERS Farm Income Estimates, was aware of past accomplishments as well as the need for improvements. The task force was appointed by Quentin M. West, Administrator of the Economic Research Service, USDA.

The responsibility accepted by the task force was to review methods and techniques for estimation of farm income statistics in ERS. More specifically the objectives included:

1. Review and evaluation of data in terms of quality and relevancy.
2. Review and evaluation of current farm income estimating procedures and appraisal of alternative methods for making estimates.
3. Review and evaluation of consistency of farm income estimates with related series including sequence and time of input to national income accounts and other aggregate statistical series.
4. Recommendation for improvement of accuracy in estimating farm income.

The members of the task force were:

George Brandow, Department of Agricultural Economics and Rural Sociology, Pennsylvania State University

Edward C. Budd, Department of Economics, Pennsylvania State University

Paul L. Farris, Department of Agricultural Economics, Purdue University

J. Richard Grant, Statistical Reporting Service, U.S. Department of Agriculture (Retired)







Richard Haidacher, Economic Research Service, U.S. Department of Agriculture

R. J. Hildreth, Farm Foundation (Chairman)

J. B. Penn, Economic Research Service, U.S. Department of Agriculture

M. L. Upchurch, Department of Food and Resource Economics, University of Florida

Allan H. Young, Bureau of Economic Analysis, U.S. Department of Commerce

We spent a full week in September 1974 examining data, sources of data, methods of making estimates, accounting rules and definitions, and reporting schedules. Eldon Weeks and Mardy Myers, National Economic Analysis Division, ERS, served well as full-time advisors to us. Their straightforward answers to questions and their comments were valuable. We acknowledge with thanks the assistance of William Manley and Gaylord Worden of ERS during the week.

We benefited greatly from the comments and thinking of Daniel Creamer and Norman Frumkin of the GNP Data Improvement Project of the Statistical Policy Division of the Office of Management and Budget. We appreciated particularly the opportunity to review their draft recommendations for data improvement basic to farm income estimates.

In our report we first present some reasons for examining and improving farm income estimates. Then we make a series of recommendations. Finally we evaluate how the recommendations, if implemented, would improve farm income estimates.

Implementation of the recommendations will require significant amounts of new funds. Much of the recommended new or different data to be collected by the Statistical Reporting Service or in the Census of Agriculture would be quite useful to others besides those involved in estimating farm income.

Our review dealt only with estimating, not with forecasting. Our efforts were confined to issues of estimating "income originating in farming." Consideration of accounts for the broader area comprising either "farming" and its associated industries or the "food sector" was beyond the scope of the task force assignment. Thus our focus on income from farming is only part of a more comprehensive need for designing a system of accounts for the entire set of economic activities involved in producing, processing, and distributing agricultural products.







Income in the framework of the national income and product accounts measures earnings from the use of such real resources as land, labor, capital equipment and structures, in current productive activity, in the economy as a whole or within any sector, such as farming. Income so defined is not a complete measure of individual and group economic well-being. It excludes many types of goods and services produced and utilized outside the market, for example, services of housewives, gardening, and home repair, although imputed values for some of the more important ones, such as farm products consumed directly by farm families, are included. Capital gains and losses are another important component not incorporated in a measure of individual and group income from production. They are excluded by certain rules of income measurement that have been adopted. Beginning and year-end inventories, for example, are valued at the same set of prices for purposes of determining inventory change — ? used in calculating both gross and net income, thus excluding gains or losses from inventory price changes. Similarly, in deriving net income from gross income, depreciation is based on the replacement or reproduction costs of capital equipment and structures rather than their original cost, in order to eliminate from net income any gains from changes in the prices of capital goods.

"Income from production" is a concept relevant to the productive activities of business enterprises and government. Personal and disposable income are more appropriate measures of the economic welfare of individuals or families and their purchasing power. "Personal income," as contrasted with national income, includes only the dividends paid by corporations, not corporate (before tax) earnings; it includes government transfer payments to households and excludes contributions of households for social insurance. The deduction of personal taxes, such as the personal income tax, from personal income yields "disposable income." The net income of farm operators (a measure of income from farm production) and the personal and disposable income of the farm population are all income measures currently published by ERS in the Farm Income Situation.

Some errors in estimating farm income are revealed by later data. When this occurs, the estimate is revised. Large revisions have many undesirable consequences for both those who make estimates and those who use them. We have suggested more frequent surveys of several kinds and the gathering of additional data to help overcome this type of error.

Errors that are not revealed later by regularly collected data are considerably more difficult to assess, and their magnitude is currently unknown. By definition, all estimates are more or less imperfect approximations of some "true" or "actual" magnitude. In many, if not most, practical situations, this "true" value is not known and thus the discrepancy between a "final" estimate and the "true" value cannot be empirically assessed. In practice, additional information is gathered





in accordance with established definitions until the discrepancy between successive estimates is so small that the cost of obtaining further information is not warranted. Thus, the "final" estimate is accepted as the best or closest approximation of the "true" value, and is used to assess the discrepancies in all preceding estimates.

Inherent in this procedure is another source of error, namely the ambiguity that derives from the lack of precise definitions. Such ambiguities are periodically brought to light by individuals with direct responsibility for making the estimates. However, the definitions are seriously reconsidered most often when large revisions in estimates bring the whole estimating procedure under public scrutiny. We have suggested changes in accounting practices and definitions to reduce inaccuracies that may not be revealed by later data.





## II. REASONS FOR REVIEW AND EVALUATION OF FARM INCOME ESTIMATES

This part of the report presents the task force's view of the reasons for examining the data and procedures used in making farm income estimates. In a large measure these views led the task force to its recommendations. In addition, this part provides perspectives on farm income estimates for the reader.

### Reducing Revisions in Farm Income Estimates

A major reason for appraising farm income estimates was the substantial revisions that were required between January 1974 and July 1974 in the estimates of farm income for 1973 when additional data revealed errors. Perhaps a review of the recent historic record on farm income estimates will provide some background for more detailed examination of the current situation.

#### The Record, 1960-71

Farm income estimates are developed by ERS utilizing data largely provided by the Statistical Reporting Service and the Bureau of the Census. Both annual and quarterly estimates are made, although for USDA purposes primary emphasis is placed on the annual estimates.

For any given calendar year four estimates are made for farm income and each of the components. The first estimate for a given calendar year is made in January of the following year. It is a preliminary estimate based on incomplete information for the preceding year. The second estimate is released six months later (July) when more complete information is available. The third estimate is released in July of the following year, and the last estimate is released in July of the succeeding year. These estimates for farm income and its major components for the period 1960-71 are contained in Appendix tables 1 to 7. The following discussion briefly analyzes the revisions in these estimates.

For each farm income component the percentage deviations of the first, second, and third estimates from the final estimate are summarized in Table 1. Briefly, as might be expected, the table indicates that the average percentage error decreases from the first through the third estimates. In addition there is a definite tendency toward underestimation of various components, which also decreases with successive estimates but is still prevalent in the next to the last estimate. The largest percentage error is in the early estimates of inventory change. But much larger relative errors would be expected for this item since, unlike the other components, it is computed on changes, not levels.





Table 1--Analysis of errors in estimates of annual farm income and components, 1960-71

Farm income component	Average percent error <u>1/</u>	Range of percent error <u>1/</u>		Number of estimates that were:	
		Low	High	Too low	Too high
<hr/>					
<u>First estimate</u>					
Cash receipts from total					
farm marketings-----	2	0	4	11	0
Nonmoney income and					
government payments-----	2	0	8	3	5
Realized gross farm income:	1	0	3	12	0
Farm production expenses--	1	0	4	12	0
Realized net farm income--	2	0	6	5	6
Net change in inventories--	119	0	400	5	6
Total net farm income-----	2	0	4	8	2
<u>Second estimate</u>					
Cash receipts from total					
farm marketings-----	1	0	3	8	4
Nonmoney income and					
government payments-----	1	0	5	3	3
Realized gross farm income:	1	0	2	5	4
Farm production expenses--	1	0	2	8	1
Realized net farm income--	2	0	7	4	5
Net change in inventories--	61	0	200	5	3
Total net farm income-----	2	0	6	8	3
<u>Third estimate</u>					
Cash receipts from total					
farm marketings-----	0	0	1	7	1
Nonmoney income and					
government payments-----	1	0	2	3	2
Realized gross farm income:	0	0	1	9	2
Farm production expenses--	0	0	1	6	1
Realized net farm income--	1	0	2	5	1
Net change in inventories--	22	0	100	2	0
Total net farm income-----	1	0	2	8	1

1/ Rounded figures based on percentage error (without regard to sign) between first, second, or third estimate and final estimate.





Table 2 presents the results of an analysis of directional changes in the various estimates. For each component except inventory change there were 11 changes during the 1960-71 period. For net change in inventories there were 12 changes. The changes correctly estimated varied from 6 out of 11 to 11 out of 12 on the first estimate and from 10 out of 11 to 11 out of 11 on the third estimate. As with the percentage error, accuracy of estimating the directional changes improved with successive estimates. The poorest performance was on the first estimates of the directional changes in total net farm income.

Table 3 presents the results of an analysis of successive revisions in the estimates of individual components. The first column shows the proportion of revisions that were successful in coming closer to the final estimate than did the earlier estimate. The second and third columns further divide successful revisions into those for which the adjustment was too small and those for which the adjustment was too large.

Briefly, this table shows that the revisions were predominantly successful. For example, for the revision from the first to the second estimate, the proportion of successful revisions for cash receipts and production expenses are greater than 80 percent. The poorest performance is for nonmoney income and government payments, which was less than 50 percent successful on the first revision and only slightly above 50 percent for the revision between the first and third estimate.

During the period 1960-71 changes in farm income were gradual, and the accuracy of the estimates in terms of the size of the revisions was fairly good. However, there appears to have been a predominant tendency to underestimate the levels in the early estimates. Although the record shows that the revisions were relatively successful, the more important issue, of course, is adequacy of data for accurate early estimates so that large revisions will not be necessary.

#### Farm Income Estimates, 1972-73

The estimates of farm income in the years after 1971 present a drastically different picture.

The increase in farm income from 1972 to 1973 was extraordinarily large. Based on final estimates, the increase in total net income from 1960 to 1971 was \$4.8 billion, or about 40 percent. By comparison, the 1972 to 1973 increase for total net income was \$15.9 billion, approximately three times larger in absolute magnitude. The percentage increase was approximately 78 percent, almost double that for the entire previous twelve-year period.

Under these extraordinary circumstances, very large revisions in the 1973 preliminary estimates (made in January 1974) were required when





Table 2--Analysis of directional changes in estimates  
of annual farm income and components, 1960-71

Farm income component	First estimate			Second estimate			Third estimate		
	Total : number of : changes	: changes : correctly : estimated	: Number of : changes : correctly : estimated	Total : number of : changes	: changes : correctly : estimated	: Number of : changes : correctly : estimated	Total : number of : changes	: changes : correctly : estimated	: Number of : changes : correctly : estimated
Cash receipts from total farm marketings-----	11	9		11	10		11	10	
Nonmoney income and govern- ment payments-----	11	9		11	9		11	10	
Realized gross farm income---	11	10		11	10		11	11	
Farm production expenses-----	11	9		11	10		11	10	
Realized net farm income-----	11	7		11	10		11	11	
Net change in inventories-----	12	11		12	11		12	11	
Total net farm income-----	11	6		11	7		11	10	



Table 3--Analysis of successive revisions in estimates  
of annual farm income and components, 1960-71

Revision and component	Percent of successful revisions	Percent of all revisions that were successful but that were:	
		Too small	Too large
<hr/>			
From first to second estimate			
Cash receipts from total			
farm marketings-----	83	58	25
Nonmoney income and govern-			
ment payments-----	42	17	25
Realized gross farm income---	75	33	42
Farm production expenses----	83	50	33
Realized net farm income-----	58	33	25
Net change in inventories----	58	17	42
Total net farm income-----	67	25	42
Total-----	67	33	33
From first to third estimate			
Cash receipts from total			
farm marketings-----	92	58	33
Nonmoney income and govern-			
ment payments-----	58	0	58
Realized gross farm income---	75	58	17
Farm production expenses----	83	33	50
Realized net farm income-----	67	17	50
Net change in inventories----	92	9	83
Total net farm income-----	67	33	33
Total-----	76	30	46
From second to third estimate			
Cash receipts from total			
farm marketings-----	58	25	33
Nonmoney income and govern-			
ment payments-----	33	0	33
Realized gross farm income---	67	42	25
Farm production expenses----	58	33	25
Realized net farm income-----	42	0	42
Net change in inventories----	67	9	58
Total net farm income-----	58	25	33
Total-----	55	19	36





more complete information was used in making the July 1974 estimates of farm income for 1973. These revisions are shown in the last column of Table 4. Total net farm income was revised upward by more than \$9 billion and realized net farm income by more than \$6 billion. The major components contributing to these revisions were the upward revision of over \$5 billion in cash receipts and over \$3 billion in inventory change. Most of this revision, in both cash receipts and inventories, was for crops, with a smaller revision for livestock.

With respect to inventories, more complete information following the preliminary estimate led to only small revisions in quantity, but to higher estimates of unit prices.

Estimates of crop receipts are developed from separate estimates of quantities and prices. But crop years do not generally coincide with calendar years, so that a given year's crop may be sold in two or more different calendar years. Thus, the quantities marketed in different years have to be estimated, and the officially reported monthly prices have to be matched with corresponding estimated quantities marketed. In making the preliminary estimates the procedures used depend heavily on economic relationships derived from past experience. Because of the unusual price behavior in 1972 and 1973 these historic relationships did not hold. A larger than usual quantity of the 1972 crop was held over and sold at high market prices in 1973. Also, large quantities of corn and wheat held under CCC loan were redeemed and sold at high market prices in 1973, and sufficient information on the timing of farmers' sales from these holdings was not available until after the preliminary estimate was made.

Livestock receipts had to be revised upward about \$1 billion. This resulted from the breakdown of the historical relationships between livestock slaughter and total cattle and calf sales that are used in making the preliminary estimate. Data on sale of livestock for slaughter are available by the end of the calendar year, but similar data for non-slaughter sales are not. Consequently, the historical proportion between these sales categories is used to make the preliminary estimate of non-slaughter sales. In 1973, use of this relationship resulted in the underestimation noted above.

The 1973 experience pointed out the fact that the current estimates of farm income are not based on current monthly or quarterly surveys of crop movements or of receipts and expenses. They are based on procedures which rely on annual forecasts of quantities with various devices to spread the annual forecast over the months in which the crops are marketed. The situation for prices is different. For prices, current monthly data are available.





Table 4--Estimates of farm income and components, 1973 <sup>1/</sup>

Farm income component	Jan. 1974 estimate	July 1974 estimate	Difference
	<u>Billion dollars</u>		
Cash receipts from farm marketings-----	83.4	88.6	5.2
Nonmoney and other farm income-----	7.1	8.4	1.3
Realized gross farm income----	90.5	97.0	6.5
Farm production expenses-----	64.4	64.7	.3
Realized net farm income-----	26.1	32.2	6.1
Net change in farm inventories-----	0.8	4.0	3.2
Total net farm income-----	26.9	36.2	9.3

<sup>1/</sup> The January 1974 estimates and the July 1974 estimates for 1973 are not strictly comparable because of benchmark revisions introduced in July 1974. The benchmark revisions lowered the 1973 estimates of net farm income due mainly to the inclusion of additional expense items. If the effect of the benchmark were excluded, the difference between the January and July estimates of total net farm income would be \$12 billion, larger than shown in the table.

Source: Farm Income Unit, ERS, USDA



## Better Integration of Farm Income Data with the National

### Income and Product Accounts

The U.S. "national income and product accounts" provide the basis for measuring and analyzing the production of the U.S. economy, the incomes generated by that production, and the spending of those incomes. The accounts are summarized by the gross national product (GNP), which is defined as the market value of goods and services produced by the Nation's economy. The GNP is presented in terms of the various types of final demand--personal consumption expenditures, formation of fixed capital by business net exports, and government purchases of goods and services--and the change in business inventories.

Types of income earned in producing the GNP are employee compensation, proprietors' income, rental income of persons, corporate profits, and net interest. The national income and product accounts are prepared by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce.

The USDA farm income estimates are incorporated in the U.S. national income and product accounts. Gross value added is used by BEA as the measure of output originating in farming. It includes in addition to net farm income, the earnings of other factors used in the farming industry, depreciation, and indirect business taxes, less government payments to farmers other than CCC purchases. Net farm income is separated by BEA into the income of farm proprietors and the income of corporations classified in farming. The corporate share of farm income is estimated by BEA from corporate income tax returns as tabulated in IRS Statistics of Income. Gross value added in farming is presented in both current and constant prices by BEA. The constant price measure is derived by adjusting the current price measure for changes in prices with implicit price deflators prepared by BEA from USDA farm price statistics.

The GNP and related estimates provide much of the information used by government policy makers (as well as by business and other decision makers) in formulating economic policies. These estimates need to be accurate, available promptly, and consistent with each other in terms of definitions and timing. These needs demand more of the USDA farm income estimates than would be required if they were used only for agriculture-related purposes.

A recent BEA study of the components of the national income and product accounts placed the current quarterly estimates of farm income in the lowest group in terms of overall accuracy. In terms of revisions, the quarterly farm income estimate had the poorest record





of any income type in the national income and product accounts for the period 1964-71. Table 5 compares for each income type the average and the largest positive and largest negative revision in the quarterly percentage changes as measured on a current basis and after the first annual revision. The largest revision in the quarterly percentage change in farm income was quite substantial--10.2 percentage points. If more recent 1973 experience were to be included, the largest revision would be 22.3 percentage points in the first quarter of 1973. Use of unrealistic measures leads to inaccuracies of the type that are not revealed by later regularly collected data.

The fundamental changes that have already taken place in the agricultural economy and the prospects of further substantial changes call for rapid identification of required data and also rapid development of data as changes continue to occur. The need is particularly great for prompt development of series which will reflect the new significant features of agriculture. New surveys as well as rescheduling of existing surveys may be required. An evaluation of sources, quantity, quality, and time of

Particularly in view of the 1973 experience, more accurate current quarterly estimates of farm income are needed. The need for better inventory statistics is particularly pressing as this USDA estimate enters into the change in business inventories component of GNP as well as into farm income.

Another improvement which is needed is to make the accounting rules and definitions used by USDA more consistent with the national income and product accounts. Farm income estimates are made largely on a cash basis. No account is taken of inventories of purchased materials or of inventories of growing crops, that is, "work in process." The result is that income (the difference between sales and cost of materials used in production) is not properly recorded in the period in which it accrued. While it does not seem feasible to treat growing crops in the same manner as inventories of work in process are treated in the nonfarm sector, the addition of inventories of purchased materials in the farm account would result in income being recorded more nearly in the proper period.

The lack of a precise boundary between the farm and nonfarm sectors in the national income and product accounts is the source of some problems. One boundary problem is the synchronization of farm and non-farm inventories. USDA records a withdrawal from inventories as the goods leave the farm gate. Given the USDA procedure, the good should be picked up in the nonfarm sector at the first point of storage beyond the farm gate. Some adjustments may be needed in either the farm or nonfarm data collection programs to achieve synchronization, whether it be at the farm gate or at a later storage point.

Another boundary problem is how to treat profits of corporations engaged in farming. An increasing share of farm income is probably in





Table 5--Revisions<sup>1/</sup> in quarterly percentage changes for  
seasonally adjusted national income components,  
1964 (1) to 1971 (4)

Components of national income	Largest revision		Average without regard to sign
	Positive	Negative	
Compensation of employees-----	0.4	-0.4	0.3
Wages and salaries-----	0.4	-0.3	0.2
Private-----	0.5	-0.5	0.2
Government-----	2.0	-0.7	0.4
Supplements to wages and salaries--	0.2	-0.2	0.6
Proprietors' income-----	4.1	-2.2	1.0
Business and professional-----	2.4	-1.8	0.6
Farm-----	9.2	-10.2	3.9
Rental income of persons-----	1.4	-0.5	0.4
Corporate profits and IVA-----	2.6	-4.9	1.1
Net interest-----	2.1	-1.9	0.9

1/ Revisions are between quarterly percentage changes as computed 15 days after the end of the quarter and after the first annual revision-in July of the following year. Corporate profits are not estimated 15 days after the end of the quarter; measures shown are for estimates prepared 75 days after end of quarter.

Source: Reliability of the Quarterly National Income and Product Accounts of the United States, 1947-71, Bureau of Economic Analysis Staff Paper No. 23, July 1974, Appendix A.



the form of profits of farm establishments owned by corporations classified in nonfarm industries. In addition, an increasing share of profits is probably going to corporations as contractors rather than to owners of farm establishments. Such profits should not be included in both the estimate of farm income and the estimate of nonfarm corporate profits when these estimates are incorporated into the national income and product accounts.

Tailoring the farm income estimates more exactly to fit the national income and product accounts will also make the farm income estimates more suited to integration with accounts for the supply, processing, and distribution industries for "food sector" analysis and other purposes if such integration appears desirable later.

#### Organizational Changes in the Farm Sector

Farmers are losing their traditional identity as a unique social and economic group. Thus meaningful economic measures must focus on the farming sector of the economy as a type of business rather than on farms as households. Measures of welfare have a meaningful place in our body of economic intelligence, but they lie outside the specific assignment of this task force.

Organizational changes in the farm sector have made traditional farm income measures increasingly unrealistic. Because of growing heterogeneity among producing units, no major group of producers is now realistically represented by data series that were considered valid in the past. Major organizational changes include widening size distributions, growth of vertical coordination and contracting, increases in part-time farming, and changes in the importance of different legal forms of organization. Use of unrealistic measures leads to inaccuracies of the type that are not revealed by later regularly collected data.

The fundamental changes that have already taken place in the agricultural economy and the prospects of further substantial changes call for rapid identification of required data and also rapid development of data as changes continue to occur. The need is particularly great for prompt development of series which will reflect the new significant features of agriculture. New surveys as well as rescheduling of existing surveys may be required. An evaluation of sources, quantity, quality, and time of collection and receipt of data is needed to improve current estimating procedures. The uncertain characteristics of agricultural production, along with marked seasonal patterns, give rise to certain estimating problems. The problems of sampling relatively heterogeneous units and production areas at critical times, along with sufficient coverage to obtain representativeness in diverse and broad geographic areas, present several difficulties unique to agriculture.

There is also a need for a more generally descriptive and useful





income data system for certain distributions in the farming sector. Tentative plans call for the new Census of Agriculture to classify farm units into three major groups: (1) primary farms, including sole proprietorships and partnerships when the majority occupation of the operator is farming and corporations when the majority of the income is from farming; (2) part-time farms, including sole proprietorships and partnerships when the majority occupation of the operator is not farming; and (3) business associated farms, including corporations when the majority of the income is not from farming.

This new classification is expected to make possible farm income estimates not only by size category, as at present, but also by organizational form. For contract production it will make possible estimation of the shares received by contractors and contractees. Other procedures are being developed to help delineate organizational forms and emerging categories and to permit more precise income estimates for various groups. Although income distribution among major farm groups is not a focus of this report, it is an issue that deserves further study.



### III. RECOMMENDATIONS

Recommendations are made in the following areas: Accounting rules and definitions, basic data, timing and revisions, and development of improved techniques for use of data. The section on accounting rules contains recommendations which would reduce ambiguities in definitions and reporting as well as improve the usefulness of the estimates for national income accounting. The basic data section recommends changes in the content, reliability, and timing of data used to develop the estimates. The next section contains recommendations for overcoming some of the scheduling problems which have resulted from an interagency agreement between the Office of Management and Budget, ERS, and BEA. The last section contains recommendations for improving use of available data.

#### Accounting Rules and Definitions

##### Net Income of Farms

We recommend that the term, "net income of farms," be substituted for the term, "net income of farm operators," as used in ERS publications. The farm should be viewed as a business enterprise or establishment, not as a family or consuming unit. The use of the term, "farm operator," to identify particular concepts in the production account creates the misleading impression that only one self-employed person is identified with each farm establishment. In actual fact, of course, there may be more than one, as would be the case in a partnership or an incorporated business, making the operator difficult, if not impossible, to identify. This does not deny the usefulness of breaking down "net income of farms" in different ways, such as by size or by legal form of organization (proprietorships, partnerships, closely held corporations, and other corporations). It does mean, however, that there is no consistent relation between a production account for business enterprises and an income and outlay account for families and consumer units.

##### Gross Value Added

Gross value added or gross income originating<sup>1/</sup> is a better and more comprehensive measure of economic activity in the farm sector than is net income of farms, since it includes the earnings or incomes of other factors

<sup>1/</sup> Gross income originating for a sector is equal to the value of its sales and own account capital formation (e.g., change in its inventories) minus its purchases of intermediate products and services. It includes not only the gross income (depreciation plus net income) of the business enterprises comprising the sector, but payments to owners of other resources used in the sector as well (employee compensation, rent, and interest). When viewed from the output rather than the income side, it is referred to as gross product originating, a term employed in the national income and product accounts.





used in the farming industry. We therefore recommend that ERS shift its emphasis in its reports from net income of farms to gross value added and that the components be arranged and listed in a production statement format similar to that in Figure 1. Some of the modifications in accounting rules discussed below are incorporated in the production statement.

This change in no way reduces the importance we attach to net income of farms; indeed, it will continue to be the largest of the income types comprising value added or income originating in farming. Nor is the gross value added concept new or foreign to the accounting framework for the estimates published in Farm Income Situation. It can easily be approximated by a simple rearrangement of the items already included in that report (the sum of net income of farms, interest on farm debt, rent paid to nonoperator landlords, hired labor expense [cash wages plus value of perquisites], indirect business taxes, depreciation and other consumption of farm capital). Thus our recommendations do not require a different accounting system. All that is necessary are certain changes in the "accounting rules" now in use.

#### Establishment Basis

For purposes of measuring income in the farming sector, we recommend moving completely to an "establishment basis" in preference to a products basis. This means that ancillary products and services produced by farm establishments, particularly those described by SIC code 07 (agricultural services) should be included in gross receipts or sales.

In view of the importance of "place" in the farming sector, we recognize that it is difficult to develop a precise definition of an establishment that is fully consistent with the definitions used for other sectors. We also recognize the difficulties with respect to corporations with farming operations, due to the fact that data on corporate profits (e.g., from IRS) are available only on a company, not on an establishment, basis. The ERS method of estimating net income of farms implicitly encompasses corporate profits originating in the sector as well as the income of farm proprietors and partners. In the present state of our knowledge such net income cannot be divided precisely between the two business income types. The major activity of corporate firms with farm operations and establishments is often classified in other industries (e.g., manufacturing), and all of the profits of such firms are allocated to these other industries in the statistics collected and prepared by other agencies. Such estimating difficulties may well lead to some "double counting" of profits of corporations with farming operations in BEA's estimate of national income, although this fact should not alter the way ERS currently estimates the net income of the farm sector.

The 1969 Census of Agriculture contains data on corporate farming operations that can be used to allocate the net income of



Figure 1. Production Account for Farms

Allocations

Sources

- Intermediate products purchased 6/
  - A. Interfarm Purchases
  - B. Purchase of inputs from other sectors
- Gross value added or income originating at market prices
  - A. Capital consumption allowances
  - B. Indirect business taxes less subsidies 1/
  - C. Net income originating at factor cost ("national income originating in farming") 2/
    - 1. Compensation of employees 3/
    - 2. Rent paid to non-operator landlords 4/
    - 3. Net interest payments
    - 4. Net income of farms by legal form of organization 1/
      - 1) Income of unincorporated enterprises 5/
      - 2) Corporate profits

- III. Sales and nonbusiness uses 6/
  - A. Interfarm sales
  - B. Sales to other sectors
  - C. Farm home uses 7/
- IV. Own account uses (by farm establishments)
  - A. Fixed capital formation
    - 1. Changes in breeding livestock, laying flocks, etc
    - 2. Own account construction (e.g., farm building construction, land improvements, investment in orchards and vineyards)
  - B. Change in inventories
    - 1. Non-breeding livestock, etc.
    - 2. Harvested crops
    - 3. Inputs (seeds, fertilizer, pesticides, etc.)

Total

Total

Includes government payments (a minus sign for B, "indirect taxes less subsidies"; a plus sign for C.4, "net income of farms.")

Similar to BEA's "national income originating in farming."

Inclusive of perquisites (food and housing furnished free) and "supplements" (fringe benefits) and employer social security taxes.

Rent paid to farm-operator landlords is included in C.4, 1), "income of unincorporated enterprises."

Synonymous terms would be "net income of farm proprietors" and "farm self-employment income."

Includes "ancillary products and services" of farm establishments.

"Food and fuel consumed on farms."





farms between corporate profits on the one hand and the net income of unincorporated farm enterprises on the other. However, the profits to corporations will be underestimated because they also receive profits as contractors. This information should be available from future agricultural censuses as well.

#### Interfarm Transactions

USDA estimates of cash receipts and production expenses exclude the value of some interfarm transactions, for example, interfarm sales of livestock which occur within a single state. While this exclusion does not affect gross value added and in particular the net income of farms, since the same amount is being excluded from both sides, it does reduce the usefulness of cash receipts and production expenses themselves as measures of total economic activity in the farm sector. The trend of activity relative to the trend of net income, for example, might be an indicator of changes in structure, such as the degree of specialization among farming establishments. We therefore recommend that all available information on interfarm transactions be obtained and added to both cash receipts and production expenses.

#### Capital Formation

The accounting rule should be tightened to separate more clearly capital formation on farms from current production. In particular, increases in breeding and dairy livestock and laying flocks should be classified as fixed capital formation rather than inventory change. Own account construction, as well as construction by one farm establishment for another (or interfarm purchases of services or products used in construction), should also be counted as gross capital formation and included among own account uses. Examples are construction of farm buildings, improvements to land, such as construction of irrigation and drainage systems, and planting and development of orchards, trees, and vineyards. The changed rules would require in addition that depreciation on such own account construction, both current and past, be added to production expenses. While in principle net farm income could be larger or smaller than income as currently measured, depending on whether own account construction exceeded or fell short of the additional depreciation, it would most likely be increased if this change were incorporated in the estimates.

If the preceding recommendation is adopted, breeding and dairy livestock would be classified as fixed capital, and livestock inventories reduced by corresponding amounts. So far as crop inventories are concerned, we recommend that they continue to be confined to crops that have been reported as harvested rather than including pre-harvested crops as well.

#### Time and Price of Sales

Current practice is to count CCC loans on crops as farm establishment



sales to the CCC, even though title is retained by the producer and the crops are often stored on the farm. Since the farmer is in a position to pay off the loan, acquire the stock, and sell it on the open market--many, indeed, have been exercising that option recently--we feel it is more appropriate to treat crops under such loan arrangements, not as sales, but as part of the farmers' inventories. The forfeiture of the collateral for the CCC loan would, of course, convert the loan into a sale.

Current practice further treats a crop as being sold at the time it is moved off the farm, even though the farmer retains title to it and sells it at a later date. The practice arose because available data do not show the ownership of stocks in nonfarm locations. The effect of this practice is to overstate or understate farm income when prices change and to understate farmer-owned inventories.

A related practice is to consider as sold at current prices commodities, such as citrus fruits, marketed under arrangements which defer establishment of the final price until the product has been disposed of by the receiver. The result is that the price used for income computations may not be the actual one. In addition, an accounts receivable that should appear as a balance sheet asset for the farming sector is omitted.

Information is not available on the magnitude of errors introduced by these practices or on the feasibility and cost of obtaining data needed for more accurate reporting of actual transactions. We recommend research to obtain such information at an early date so that an informed decision can be made concerning the retention or modification of current practices.

### Inventories of Inputs

Production expenses for such items as fertilizers are now based on estimates of farmers' purchases of such materials rather than on their use. This makes the calculation of expenses sensitive to the timing of such purchases, which may be unduly affected by tax considerations, particularly at year end. We therefore recommend that data on on-farm inventories of the more important inputs be obtained for use in adjusting expenses for such inputs from a purchase to a use basis, to make value added and net income of farms more nearly reflect income from current production.

### Rent and Rental Income

We recommend that in the national income and product accounts the gross rental value of farm dwellings and the expenses associated with them be included in the real estate industry rather than in the farm





industry. This is consistent with the idea that income from farming should be a business concept rather than a household concept. This change would reduce net income of farms (and net rent of nonoperator landlords) by the amount of net rental income from farm dwellings. The amount of income received by individuals such as farm proprietors, which would be registered in an income and outlay account, would not be changed; part of it would simply be reclassified from one income type (net income of farms) to another (rental income of persons). Such a change in the accounting rules would make gross value added in farming more nearly represent purely farming operations. The level of farm net income would be reduced, with little effect on its year-to-year fluctuations.

This treatment should be applied to all farm housing, not just that occupied by owners of farms. If a house is furnished free to a farm worker, the imputed gross rental value should be included in employee compensation, with the gross rental value and corresponding production expenses being assigned to the real estate industry. The resulting net rental income, although part of the real estate industry, would be included in the income of the owner as an individual.

The net rental income of nonoperator landlords is now excluded from farm net income and included in the national income and product accounts in income originating in the real estate industry. A preferable treatment, which we recommend, is to include such rent, together with the depreciation, indirect taxes, and interest payments of such landlords, in gross value added on farms (and its allocations). The net rental income of farm operator landlords would continue to be included in the net income of farms.

The recommended treatment illustrates a general principal that should be applied in taking account of possible future changes in the location of productive resources used in farming. For example, if it should become a practice for farmers to rent (but operate themselves) agricultural equipment from firms or persons outside the farming industry, the net rental income arising from such contractual arrangements should be included in gross value added in farming.

#### Realized Net Income of Farm Operators

We recommend that the concept, "realized net income of farm operators," be dropped as a separate series in Farm Income Situation. Anyone wanting it could, of course, obtain it simply by subtracting inventory change from net income of farms. Net income inclusive of inventory change is much closer to the way in which profit-type incomes (corporate profits, business and professional income) are measured in the rest of the economy. "Realized income" has never accurately reflected the cash income of farm operators; indeed, a separate table in Farm Income Situation (Table 19H) gives a cash income figure, together with its derivation.



Two related advantages would flow from this change. One would be the elimination of realized net income estimates by states from the February issue of Farm Income Situation. Since some of the state data necessary for estimating the net income figures do not become available until later, net income could not be published until July in any case. Since preliminary estimates of production expenses would not have to be allocated by states early in the year, staff time would be freed for other work. Cash receipts by states, the more widely used figure, would of course, continue to be published in February. The other advantage would be that the increased focus on net income would give the staff incentive to improve the current estimates of inventories, which are used in computing net income.

#### Basic Data

Many improvements in accounting for and reporting on income from the farming sector depend on changes in the content, reliability, and timing of basic data. Some of these data originate in the Census of Agriculture, some in various surveys and reports of the Statistical Reporting Service, and some from a wide variety of miscellaneous sources. Many of the data were developed for purposes other than contributing to estimates of income from farming. Improvements in the basic data for income accounting will depend on knowing what changes to make in present sources of data, getting the originating agencies to make changes, and marshalling the resources needed for more adequate and more timely basic data.

In summary, the most significant efforts that can be made to improve quarterly and annual estimates of farm income must be directed toward better and more timely basic data. Improvements here must be made mostly by agencies other than ERS. The heaviest burden will fall on the Statistical Reporting Service. The following recommendations and suggestions reflect our judgment of the most important actions to be taken. Among these, the most critical are quarterly surveys to obtain information on:

1. Crop movements.
2. Expenditures for feed and livestock.
- ✓ 3. Inventories of cattle and calves.
4. Inventories of purchased inputs on farms.

#### Cash Receipts from Crops

Data on movement of major crops (soybeans, wheat, corn, cotton, sorghum) to markets, or at least off the farm, are critical to estimates of income. Currently, complete information on disposition of crops by months is not available until about 18 months after the end of the calendar year. For example, complete information of the 1974 wheat crop will not be available until spring of 1976. This forces ERS to use





inadequate information and proxy indicators as bases for current estimates of sale. It unduly delays final revisions of calendar year estimates of income.

We recommend quarterly surveys of crop movement in which data would be obtained by months for the three months preceding the survey. The data should include interfarm sales as well as sales to first handlers in the marketing system. Getting data on interfarm sales would be a major departure from present practice. We urge also that stringent efforts be made to collate and summarize such data promptly and that they be made available to the farm income staff at the earliest possible date, even in preliminary and unpublished form. The recommendation is consistent with and complements a following recommendation on improvements in data on inventories.

We might add that more adequate and more timely information on crop movements would be highly useful for purposes other than improving estimates of farm income, particularly when tied with better data on inventories.

Second, we recommend that annual data on disposition of crops be made available more quickly. Such data should be made available to ERS, even in preliminary form, on a crop-by-crop basis not more than three months after the end of the crop year.

Third, we recommend an annual survey to improve present data on the output and marketing of greenhouse and nursery products. Consideration should be given to a more thorough coverage of the greenhouse and nursery industry in the Census of Agriculture to improve basic information on the universe of firms involved and on their characteristics.

#### Cash Receipts from Livestock

Presently available data on interstate movements or sales of feeder and stocker cattle are quite inadequate. Farm income estimators are forced to resort to proxy indicators of sales of animals for the early estimates. We recommend that efforts be made to improve the sources of data, possibly from brand or health inspections and from transportation companies, and that such data be made available to the farm income staff as soon as it can be summarized even in incomplete and preliminary form.

To implement a recommendation made earlier that interfarm sales of livestock within states be included in the income and expense accounts of income originating in farming, we urge that ways to collect such data also be investigated.

Obtaining the above livestock data may not be as difficult as it may seem. Some of the needed information is already available since livestock purchase expense for one farmer is by definition a cash receipt for another farmer.



### Cash Receipts from Secondary Enterprises

To implement a recommendation on establishment basis accounting, we recommend an annual survey to obtain more complete data on income from such secondary enterprises as recreational services and others operated jointly with farming. If the secondary enterprise becomes a large enough business to acquire the characteristic of a separate "establishment," even though conducted on the same "place" as farming, it should not be included in gross farm income or farm expenses. Workable definitions would have to be developed.

### Production Expenses

The 1971 Farm Production Expenditure Survey provided a new set of base data that have already permitted revisions and refinements in farm income estimates. The present program for an annual updating of expenditures will result in substantial improvement over the data base available prior to this year. But some problems remain, including sample size. We urge that efforts be made to increase sample size to yield reliable regional data by size and class of farms. We urge that the tabulation and summarization of data from the annual expenditure survey be accelerated and that such data be made available to the farm income staff at the earliest possible date even in incomplete and preliminary form.

One of the most important and most difficult items in farm income accounting is expenditures for feeder livestock and feed. Since these items can change sharply within the year, annual collection of data is not frequent enough to avoid being caught with large errors, particularly in making quarterly estimates of gross income and expenditures. We recommend that efforts be made to collect expenditures for feed and livestock quarterly. This recommendation complements a later one on inventory data.

Some other expense items are not available on a more frequent than annual basis either from direct or proxy sources. Data on expenditures for hired labor are an example.

Another big item for which annual data may not be adequate is expenditures for fertilizer. Substantial discrepancies can occur between expenditures for fertilizers and their use in production. We recommend that ERS seek proxy indicators that would improve estimates of inventories of fertilizers.

One expense item that may be of growing importance and that may be overlooked is compensation to corporate officers and overhead workers of farming corporations. A special effort should be made in the annual farm expenditure survey to obtain such information.





### Inventory Data

A major source of uncertainty and change from period to period in farm income accounting is the inventory data. A chief deficiency in present inventory data relates to cattle and calves.

We recommend quarterly surveys to get inventories of cattle and calves. These surveys should be made at the end of each calendar quarter and the data should be summarized as promptly as possible. The data should be detailed enough to distinguish between livestock in the "capital account" from "work in progress." This means two additional inventories since such data are currently available semiannually.

We recommend also that quarterly surveys of inventories include stocks of such purchased inputs as fertilizer, pesticides, seed, and fuel.

Carrying out the above recommendations would require substantial change in the present system of collecting data on inventories. Surveys of inventories on farm must be coordinated with periodic surveys of stocks in all locations because such data are needed for many purposes other than farm income estimates.

### Own Account Capital Flows

Annual data are needed to estimate the formation and disposition of capital stocks on farms. These items include dairy herds, breeding herds, perennial crop stands, land improvements, and home constructed buildings, machinery, and equipment. The costs of forming such capital are presently contained in annual operating expenses. Data are needed to estimate the annual additions to and subtractions from capital stocks of such items to complete the distinctions between current costs and income on the one hand and investment and changes in capacity on the other.

The changes recommended above in handling expenditures and inventory data should go far toward development of a capital account and accounting for "own account" additions and withdrawals from capital. The chief purposes to be served are to avoid assigning all expenditures to current production and to distinguish more clearly between inventory and capital stock.

### Prices

Data on prices received by farmers that are used in farm income accounting seem to be satisfactory for most major crops and livestock products. Carrying out some of the recommendations in the report, especially getting quarterly data on crop movements, would help estimators better relate reported prices to volume and movements of output.



However, there are problems with price data for some products. A classic illustration is a farm price for broilers, where contract provisions are not known to price reporters. This applies to many other types of contract production as well.

For a few products, farm income estimators have only season average prices. During periods of large price movements, substantial error may be introduced by not matching quantities sold with price at time of sale. We recommend special investigation to these situations to improve the accuracy of periodic estimates and to develop techniques for handling special situations.

### Timing and Revisions

Because of an interagency agreement between the Office of Management and Budget, ERS, and BEA, the publication of revisions in the farm income estimates is controlled by the publication schedule for the GNP and personal income series. BEA prepares monthly estimates of farm proprietors income from ERS quarterly data for inclusion in its monthly personal income series. BEA's schedule for monthly personal income permits revisions in the quarterly ERS data until the middle of the month following the end of the quarter and then not again until the next July. Under this schedule, ERS cannot promptly revise quarterly estimates because much of the information needed becomes available only after BEA has published personal income. The result is that sometimes large adjustments are forced into fourth quarter estimates to make the total of the four quarters consistent with ERS's best annual estimate. There may also be some tendency to modify ERS's best estimate of the year, if the fourth quarter adjustment appears unacceptably large. However, such factors were not important as a source of revision in the preliminary estimates of 1973 described earlier. The revision of 1973 was due to information which became available late in the spring of 1974.

ERS now has great difficulty in preparing the quarterly estimates in time for inclusion in the personal income series of the Department of Commerce. Stringent efforts should be directed by the Statistical Reporting Service and other data suppliers toward getting basic data to ERS at the earliest possible date, including inventory data discussed above. Also the Department of Commerce should consider relaxing its deadline for reporting by as much as one month for each quarter. These changes would give ERS staff more time to assemble, and check data for both quarterly and annual estimates and would result in more accurate current estimates. The effect of the above recommendation on BEA would be to increase the number of revisions in monthly personal income.

In addition to relaxing the deadlines, the office of Management and Budget, ERS, and BEA should reconsider the interagency agreement. There is something to be said in favor of incorporating ERS estimates into the GNP accounts on the same basis as data provided BEA by other agencies.





If the same policy were to be extended to ERS as to other agencies, ERS would be free to revise as necessary to show the best estimate of each quarter. If ERS's revised estimates differed greatly from what had already been published in the GNP or personal income series, BEA would be obliged to decide whether a special revision in the national income and product accounts was warranted before the following July.

The disadvantage of the proposed change would be that at times two farm income figures, ERS's and BEA's, would be available for a given quarter and for the year. The original interagency agreement sought to avoid this situation. The advantage would be more accurate information for people interested in farm data, while postponing revisions by BEA.

#### Development of Improved Techniques for Use of Data

The task force did not have sufficient time to adequately examine the analytical techniques and procedures used to derive farm income estimates from available data.

From our discussion with ERS staff assigned to work on farm income estimates, it is evident that they are at least fully occupied in various aspects of program operations. Attention to compilation and analysis of wide variety of data, preparation of the many forecasts and estimates, and meeting BEA deadlines for farm sector data in the national income and product accounts, leave little time for consideration of alternative techniques for more effective use of available data in deriving estimates. In view of the dynamic changes we have had in the structure of agriculture, along with changes in government programs and shifts in marketing patterns, there is need for continuing study of data sources, their relevance, and estimating procedures. There may be need for flexibility in the practices used in developing the forecasts and estimates.

In view of the organizational changes in agriculture, along with a greater need in all levels of government for better economic intelligence, providing accurate farm income estimates has acquired greater importance. We believe that farm income estimates should be accorded higher priority by ERS.

We recommend that from currently available resources in ERS additional staff be assigned to the program to devote attention to research and development projects on farm income estimates. There is need for further development of predictive devices to supplement present forecasting and estimating methods. Specifically, a complete macro-model with total intrasector consistency would provide a useful cross-check and increase the accuracy of early estimates. Also computer programs that are no longer adequate need to be updated. This will require provision of additional systems and programming support.



Additionally, we recommend that estimates in certain problem areas be studied with ERS commodity and subject-matter specialists, giving special attention to data used and analytical procedures. First priority should be given to the accounts that required the greatest adjustments in 1973.





#### IV. CONTRIBUTION OF RECOMMENDATIONS TO ACHIEVEMENT OF OBJECTIVES

We believe that our recommendations, if put into effect, would go far to improve estimates of farm income. There would be, in addition, other benefits from more complete information. Certain difficulties would remain that seem unlikely to be eliminated in full by any feasible procedures.

##### Accuracy of Estimates

The recommendations can be expected to improve final estimates of annual farm income and to have an even greater effect on preliminary estimates of annual farm income and on quarterly estimates. The reasons for expected improvement include: (1) more accurate and complete data upon which all income estimates can be based, (2) more frequent and more promptly available basic data for quarterly and preliminary annual estimates, (3) substitution of directly observed data for estimates now derived by the use of historical relationships that go awry in unusual years when accurate estimates are most needed, (4) more cross-checks on the reliability of particular items, and (5) more realistic time schedules for reporting farm income estimates.

Preliminary estimates of gross income should be especially strengthened by more up-to-date information on movement of crops from farms and on sales of livestock not intended for immediate slaughter. More frequent indications of annual receipts from sales of greenhouse and nursery products and from such services as recreation should provide better income data on items that are growing in importance. Farm expenditure estimates, especially preliminary and quarterly estimate, should be markedly improved by proposed new data on feed and livestock purchases. Quarterly data on cattle inventories should be especially helpful in improving total inventory estimates and in providing valuable cross-checks for estimates of sales and purchases of cattle. Removal of capital stock in the form of breeding herds, dairy cows, and laying hens from the farm inventory category should reduce the distortion of net income by changes in inventory and thus improve the reliability of net income estimates. Experience with better data should reveal more satisfactory relationships for inferring the values of items for which direct observations are not available when early estimates must be made.

Despite the reduced time lag in availability of certain basic data if the recommendations were put into effect, the quality of quarterly estimates of farm income could be modestly improved if the deadlines for reporting to BEA were set for one month later, as has been recommended. A somewhat firmer basis for estimating farm income in a year just ended will be available for the Economic Report of the President when an estimate is required in early January. Nevertheless, so many important data will still be lacking then that such an estimate must be regarded as a highly preliminary indication of what the final estimates will be.



The early estimate could be made more reliable if the deadline for the Economic Report were a month later, but the estimate might still need substantial revision by mid-year.

### Representation of the Income of the Farming Sector

Recommended modifications in accounting rules and proposed expansion of data coverage will more adequately portray the sources and disposition of income originating in the farming sector than do present data, although differences in this regard will not be large. Separation of own capital formation from operating expenses will give a truer measure of current income. Inclusion of interfarm sales of livestock within the same state in farm receipts and expenditures will expand these items to their true size.

It has been customary to use the farm income estimates to derive measures of income going to particular categories of individuals for the purpose of welfare comparisons. Some members of our task force think that estimation of such measures should be separated from the work of estimating income in the farming sector. Certain series appearing in Farm Income Situation do not successfully measure what they are said to represent or are highly subject to misinterpretation. For example, it is questionable whether "personal income from farm sources" is actually restricted to personal income; "income per farm operator family" is in fact all realized gross income from farming, less production expenses, of corporations, partnerships, and proprietorships, divided by the number of farms. As our recommendations reflect, we support efforts to develop adequate bases upon which to distribute income originating in the farming sector to significant economic groups, but we believe that current attempts to do this are less than satisfactory.

### Other Objectives

The recommendations increase the present high degree of integration of farm income estimates with the national income and product accounts. Examples are the removal of own-account capital formation from operating expenses, greater use of the establishment concept, transfer of rent and rental income to the real estate industry, inventorying purchased inputs, and use of gross income originating in farming as the framework for representing the farm sector.

Proposals are made at various points in the report for research to determine the importance of potential sources of error in the farm income accounts, and research on future problems as they appear is also recommended. The farming sector is so dynamic that items entering the farm income accounts and supporting basic data will need periodic revision. ERS should try to identify needs for change before actual developments reveal serious errors in estimates and demonstrate unacceptable weaknesses in estimating concepts and methods.



### Complementary Benefits

Recommendations for more timely and complete data collection are made for the purpose of improving farm income estimates, but in several instances other benefits would be gained and would help to justify the costs.

The nation is in a period of serious concern about availability of farm commodities for domestic use and export as well as about unusually volatile markets. Additional data on commodity movement and inventories would increase information available to industry and to policy makers for purposes apart from income estimates.

Forecasting farm income has increased significance for agricultural policy, economic stability, and private decision-making. More accurate estimates of farm income in the recent past should improve forecasts of future farm income. More accurate expectations regarding farm income will, in turn, aid in making forecasts about other aspects of farm economic activity.

Some of the recommendations would improve the estimates of the balance sheet of the farming sector as well as farm income estimates.

Dropping the "realized net farm income" series would increase the feasibility of postponing estimates of income by states from February to July. This would reduce the burden on the staff responsible for farm income estimates at a critical time and would reduce the need for revisions. Users of the state information probably would not be greatly inconvenienced so long as cash receipts by states were published in February.

It was obviously not possible for our task force to compare costs and benefits involved in our recommendations. We did not feel closely constrained by potential costs in considering ways of improving the estimates, but we do not think the costs for any of the changes proposed would be clearly unreasonable in relation to expected benefits. Prospects are that the recent increase in economic importance and political sensitivity of farm income will continue. Some methods of estimation that were adequate in stable times fail in volatile periods such as the present. In general, we believe that expected benefits of recommended measures to obtain better farm income estimates justify the costs.





APPENDIX

Table 1--Estimates of cash receipts from  
total farm marketings, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	33.7	34.0	34.0	34.2
1961-----	34.8	35.2	34.9	35.1
1962-----	35.7	35.9	36.1	36.4
1963-----	36.2	36.9	37.3	37.4
1964-----	36.7	36.9	36.9	37.2
1965-----	38.9	39.2	39.1	39.4
1966-----	42.9	43.2	43.2	43.3
1967-----	42.5	42.8	42.7	42.7
1968-----	44.1	44.4	44.2	44.1
1969-----	47.4	47.2	48.1	48.1
1970-----	48.7	49.2	50.5	50.5
1971-----	51.6	53.1	52.8	52.8

Table 2--Estimates of nonmoney income and  
government payments, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	4.2	4.1	3.9	3.9
1961-----	4.8	4.7	4.7	4.7
1962-----	4.9	4.9	4.8	4.9
1963-----	4.9	4.8	4.8	4.9
1964-----	5.3	5.3	5.4	5.3
1965-----	5.5	5.7	5.7	5.6
1966-----	6.6	6.5	6.4	6.4
1967-----	6.4	6.3	6.3	6.3
1968-----	6.7	6.7	6.8	6.8
1969-----	7.2	7.4	7.4	7.4
1970-----	7.5	7.3	7.4	7.4
1971-----	7.0	7.0	6.9	7.0



Table 3--Estimates of realized gross  
farm income, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	37.9	38.1	37.9	38.1
1961-----	39.6	39.8	39.6	39.8
1962-----	40.6	40.8	40.9	41.3
1963-----	41.1	41.7	42.1	42.3
1964-----	42.0	42.2	42.3	42.6
1965-----	44.4	44.9	44.8	44.9
1966-----	49.5	49.7	49.6	49.7
1967-----	49.0	49.1	49.0	49.0
1968-----	50.8	51.1	51.0	50.9
1969-----	54.6	54.6	55.5	55.6
1970-----	56.2	56.6	57.9	57.8
1971-----	58.6	60.1	59.7	59.8

Table 4--Estimates of farm production  
expenses, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	26.3	26.4	26.2	26.4
1961-----	26.9	27.1	27.1	27.1
1962-----	27.7	28.2	28.3	28.6
1963-----	28.8	29.2	29.6	29.7
1964-----	29.4	29.3	29.4	29.5
1965-----	30.3	30.7	30.9	30.9
1966-----	33.2	33.3	33.4	33.4
1967-----	34.4	34.8	34.8	34.8
1968-----	35.9	36.3	36.0	36.2
1969-----	38.6	38.4	38.7	38.8
1970-----	40.4	40.9	41.1	41.0
1971-----	42.9	44.0	44.5	44.5





Table 5--Estimates of realized net  
farm income, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	11.6	11.7	11.7	11.7
1961-----	12.7	12.8	12.5	12.6
1962-----	12.8	12.6	12.6	12.6
1963-----	12.3	12.5	12.5	12.6
1964-----	12.6	12.9	12.9	13.1
1965-----	14.1	14.2	13.9	14.0
1966-----	16.3	16.4	16.2	16.3
1967-----	14.5	14.2	14.2	14.2
1968-----	14.9	14.8	15.0	14.7
1969-----	16.0	16.2	16.8	16.8
1970-----	15.8	15.7	16.8	16.8
1971-----	15.7	16.1	15.2	15.2

Table 6--Estimates of net change in  
inventories, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	0.4	0.3	0.3	0.3
1961-----	.3	.2	.3	.3
1962-----	.1	.7	.6	.6
1963-----	.5	.5	.6	.6
1964-----	.1	-.8	-.8	-.8
1965-----	.3	1.0	1.0	1.0
1966-----	-.2	-.2	-.1	-.1
1967-----	.4	.4	.5	.7
1968-----	.5	-.1	.1	.1
1969-----	.2	.3	.1	.1
1970-----	.5	.2	.0	.1
1971-----	.6	1.3	1.7	1.7



Table 7--Estimates of total net farm  
income, 1960-71

Year	Estimate			
	First	Second	Third	Final
	<u>Billion dollars</u>			
1960-----	12.0	12.0	12.0	12.1
1961-----	13.0	13.0	12.8	13.0
1962-----	13.0	13.3	13.2	13.2
1963-----	12.8	13.0	13.1	13.2
1964-----	12.7	12.1	12.1	12.3
1965-----	14.4	15.2	14.9	15.0
1966-----	16.1	16.2	16.1	16.3
1967-----	14.9	14.6	14.7	14.9
1968-----	15.4	14.7	15.1	14.8
1969-----	16.2	16.5	16.9	16.9
1970-----	16.3	15.9	16.8	16.9
1971-----	16.3	17.4	16.9	16.9

Source of Appendix Tables 1-7: Farm Income Unit, ERS, USDA.





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